

CLAIMS

What is claimed is:

1. An airflow control system for a fuel cell comprising:
an air supplier for supplying air;
a volume for storing said air;
a plurality of fuel cell subsystems connected to said volume;
a sensor for sensing air pressure in said volume; and
a controller that receives a minimum required air pressure for each of
said fuel cell subsystems.
2. The airflow control system of claim 1 wherein said controller selects a
highest minimum required air pressure and controls said air supplier to provide said
highest minimum required pressure in said volume.
3. The airflow control system of claim 1 wherein said air supplier
includes a compressor.
4. The airflow control system of claim 1 wherein said volume includes
tubing.
5. The airflow control system of claim 1 wherein said volume includes a
manifold.

6. The airflow control system of claim 1 wherein said volume includes a manifold connected to tubing.

7. The airflow control system of claim 1 wherein said controller periodically polls each of said fuel cell subsystems for said minimum required air pressure.

8. The airflow control system of claim 1 wherein said fuel cell subsystems include a flow controller and a flow sensor.

9. The airflow control system of claim 8 wherein said flow controller includes an electronic throttle valve and said flow sensor includes a hot wire anemometer.

10. The airflow control system of claim 1 wherein said fuel cell subsystems include a component that is selected from the group of combustors, partial oxidation reformer, preferential oxidation reactor, fuel cell stacks, a cathode inlet of a fuel cell stack, and an anode inlet of a fuel cell stack.

11. The airflow control system of claim 1 wherein each fuel cell subsystem includes a flow controller and said controller polls said flow controller for said minimum required air pressure of said fuel cell subsystem.

12. A method for controlling airflow to fuel cell subsystems in a fuel cell, comprising the steps of:
- supplying air to an air storage chamber;
 - connecting a plurality of fuel cell subsystems to said air storage chamber;
 - sensing air pressure in said air storage chamber; and
 - polling each of said fuel cell subsystems for a minimum required air pressure.
13. The method of claim 12 further comprising the steps of:
- selecting a highest minimum required air pressure; and
 - maintaining said highest minimum required air pressure in said air storage chamber.
14. The method of claim 12 wherein said air is provided by a compressor.
15. The method of claim 12 wherein said air storage chamber includes tubing.
16. The method of claim 12 wherein said air storage chamber includes a manifold.
17. The method of claim 12 wherein said air storage chamber includes a manifold connected to tubing.

18. The method of claim 12 further comprising the step of periodically polling said fuel cell subsystems for said minimum required air pressure.

19. The method of claim 12 wherein said fuel cell subsystems include a flow controller and a flow sensor.

20. The method of claim 19 wherein said flow controller includes an electronic throttle valve and said flow sensor includes a wire manometer.

21. The method of claim 12 wherein said fuel cell subsystems include a component that is selected from the group of combustors, partial oxidation reformer, preferential oxidation reactor, fuel cell stacks, a cathode inlet of a fuel cell stack, and an anode inlet of a fuel cell stack.

10021727 121201

- 10021727-121201
22. An airflow control system for a fuel cell comprising:
- a compressor that supplies air;
 - a volume for storing said air;
 - a plurality of fuel cell subsystems connected to said volume, wherein each of said fuel cell subsystems include a flow controller and flow sensor;
 - a sensor for sensing air pressure in said volume; and
 - a controller that polls said flow controllers of said fuel cell subsystems for a minimum required air pressure for said fuel cell subsystems, that selects a highest minimum required air pressure, and that controls said compressor to provide said highest minimum required pressure in said volume.
23. The airflow control system of claim 22 wherein said volume includes tubing.
24. The airflow control system of claim 22 wherein said volume includes a manifold.
25. The airflow control system of claim 22 wherein said volume includes a manifold connected to tubing.
26. The airflow control system of claim 22 wherein said controller periodically polls said fuel cell subsystems.
27. The airflow control system of claim 22 wherein said flow controller includes an electronic throttle valve and said flow sensor includes a wire manometer.

28. The airflow control system of claim 22 wherein said fuel cell subsystems include a component that is selected from the group of combustors, partial oxidation reformer, preferential oxidation reactor, fuel cell stacks, a cathode inlet of a fuel cell stack, and an anode inlet of a fuel cell stack.

10021727.121201